



PACIFIC FOREST TRUST

Private Forests. Public Treasures.

Shelby Livingston
Air Resources Board
1001 I Street
Sacramento, CA 95814

June 04, 2018

Dear Shelby Livingston,

Thank you for this opportunity to comment on the Natural Working Land (NWL) Implementation Plan Concept Paper. We appreciate the state's effort to focus on NWLs and the essential role they play in climate mitigation and adaptation with this planning effort. As this process moves forward, we encourage you to consider the following recommendations:

1. Set a realistically ambitious sequestration target of at least 75-100 MMTCO₂e that will catalyze additional investments.
2. Integrate co-benefits and use them to prioritize actions in the NWL Implementation Plan.
3. Direct clear coordination between state agencies to achieve greater benefits.
4. Prioritize projects that will also have reliable benefits in 2050 and 2100.
5. Facilitate transparent, rigorous, and timely review of CALAND.
6. Consider complementary tools to the CALAND model.
7. Use monitoring tools that are effective at assessing the impact of state interventions.

Set a realistically ambitious sequestration target of at least 75-100 MMTCO₂e that will catalyze additional investments. The 15-20 MMTCO₂e target for NWLs set forth in the Revised Scoping Plan is one benchmark, but it pales in comparison to the much more ambitious 147 MMTCO₂e that a recent peer-reviewed publication estimates could be achieved on California's lands by 2030.¹ We recommend a target of at least 75-100 MMTCO₂e, which is within the moderate-ambitious range enumerated by Cameron et al. 2017. This target for state-funded interventions on NWLs would be realistically ambitious and complement the climate goals for the rest of California's economy.

NWLs have an essential role to play in cost-effective climate change mitigation. Of the California Climate Investments to date, only 11% has been invested in NWL programs. However, NWLs have achieved over 18% of the greenhouse gas (GHG) benefits, despite some of the recent investment going towards new programs which have yet to have

¹ Cameron, D.R., Marvin, D.C., Remucal, J.M., Passero, M.C., 2017. Ecosystem management and land conservation can substantially contribute to California's climate mitigation goals. PNAS 114, 12833–12838. <https://doi.org/10.1073/pnas.1707811114>

quantifiable benefits.² The Forest Health program alone has received just 4% of the investments and contributed 11% of the GHG benefits. With an average cost of under \$12/MTCO₂e, these implemented forest health investments are seven-times more cost-effective than the average GGRF project at \$84/MTCO₂e. The state's goal for NWL should be appropriately ambitious to encourage increased cost-effective investments and efforts instead of simply maintaining business-as-usual activities.

Integrate co-benefits and use them to prioritize actions in the NWL Implementation Plan. As the state has recognized in numerous other planning documents, NWLs play an invaluable role in supporting climate change adaptation, water security, and wildlife habitat. While it is broadly recognized that many actions to improve carbon sequestration, such as growing older trees, will have numerous co-benefits, not all actions are equally beneficial. The state should use these co-benefits – particularly climate adaptation – to prioritize the NWL implementation actions that have the greatest enduring benefits. We recommend prioritizing actions such as those that are located in key source watersheds, enhance wildlife connectivity, and protect habitats. By fully integrating these co-benefits, the state can leverage the important work being done in the NWL Implementation Plan to achieve synergistic goals set forth in Safeguarding California, the State Wildlife Action Plan, the Water Action Plan, and many other state plans.

Direct clear coordination between state agencies to achieve greater benefits. Just as the state should consider potential synergies and co-benefits in planning and prioritization, so too is increased coordination beneficial in implementation. A single parcel can contain many different opportunities to enhance and protect carbon sequestration across multiple land types. The need to apply to many different state agencies and departments and the lack of coordination between these agencies can result in inefficiencies and missed opportunities.

We recommend greater collaboration between state agencies and departments, which could include a single “common application” for all resources-related grants, greater cross-agency consultation on proposed projects, and coordinated award schedules. Cross-agency consultation on proposed projects helps both maximize the co-benefits and reduces the risk of adverse impacts, as interdisciplinary expertise provides a wider range of perspectives on project outcomes and risks. A common application also helps reduce the paperwork burden as the state need only to review a single application rather than many for the same project. More coordination between the agencies will help ensure that projects with the greatest benefits are prioritized and help facilitate projects that span multiple different land types.

² This figure includes the Sustainable Agricultural Lands Conservation Program, Wetlands and Watershed Restoration Program, Forest Health Program, Fire Prevention Program, and the Urban and Community Forestry Program which have all had some implemented projects as well as the following programs which have yet to have quantifiable GHG benefits: Healthy Soils Program, Wildfire Prevention Program, Climate Ready Program and Coastal Resilience Planning, Climate Adaptation and Resiliency Program, and Wildfire Response and Readiness. All data is from the 2018 California Climate Investments Annual Report: <http://www.caclimateinvestments.ca.gov/annual-report/>

Prioritize projects that will also have reliable benefits in 2050 and 2100. One of the questions posed during the workshop was how the NWL Implementation Plan can be used to increase the chance of long-term success. We recommend that the reliability and durability of projects implemented today are taken into account, with priority given to those projects that will ensure enduring benefits and have mechanisms to reduce the risk of reversal from changes in management or land conversion. For instance, a thinning project that is underpinned by a working forest conservation easement and commitment to manage the forest for larger, older trees in perpetuity would be expected to have greater and more resilient carbon stores in 2050 and 2100 than a thinning project on unsecured forest land.

Many of the grant programs that would be part of the NWL Implementation Plan Strategy already contain forward-thinking requirements that project benefits must endure for at least 50 years.³ We recommend that the NWL Implementation Plan build on the good work done in these grant programs to consider enduring benefits by taking into account expected 2050 and 2100 outcomes. This consideration of the risk that the project benefits are reversed and what will be gained over a longer time horizon can help ensure that the appropriate actions are prioritized in the near-term to meet the state's long-term climate goals.

Facilitate transparent, rigorous, and timely review of CALAND and consider alternatives. It has been over 17 months since the CALAND model was first introduced to stakeholders at the December 2016 workshop, but we have yet to see substantive information about how the model works and the outputs that it might produce. Without a foundational understanding of the equations, assumptions, and outputs of the CALAND model, it is impossible to assess whether it will be useful in informing the NWL Implementation Plan or lead the state astray in the investment of hundreds of millions of dollars.

The scientific process requires that enough detail is provided for methods to be replicable. State agencies like ARB typically publish extensive technical guidelines so that interested stakeholders can follow their calculations and reproduce their results. However, the one technical guide that has been provided thus far on CALAND focused on the *model inputs* but did not enumerate what happened to those inputs in the model or describe any of the model outputs. A thorough technical guide – and the excel and R code used to produce the model results – would allow stakeholders to finally understand how the model works and provide feedback on the embedded assumptions.

Releasing these technical guides and model equations only when CALAND is finalized is like asking someone to buy a used car and only allowing a mechanical inspection after they've already driven it home. We encourage the state to avoid codifying any reliance on the CALAND model for goal-setting, monitoring, or other uses in the NWL Implementation

³ Guidelines about enduring benefits for CAL FIRE's Forest Health Program are in PRC Section 4799.05(c)(2). Similar provisions for the WCB's Climate Adaptation Program and DFW's wetland restoration program are in the Budget Act of 2017 (Items 3640-101-3228 and 3600-101-3228 respectively).

Plan until stakeholders have been given the chance to look under the hood and comment on the inner workings of the CALAND model.

Consider complementary tools to the CALAND model. The CALAND approach is just one way of quantifying the expected benefits of state actions on NWLs. We encourage the state to consider other viable alternatives such as the peer-reviewed literature which can complement the CALAND model and provide other data points for consideration in setting the goals and determining actions on NWLs. The California Climate Investments and Offset Projects also provide data on expected outcomes of different types of actions on NWLs. We recommend that the CALAND model results are contextualized with these results from other sources, presented as a table that outlines each action, projected carbon gains per acre from each available source, and the number of acres of that land type in the state on which those actions might be possible.

Use monitoring tools that are effective at assessing the impact of state interventions. While a number of different monitoring tools were mentioned in the Concept Paper, these focused on whole-system inventories and expected outcomes. As the state is proposing an intervention-based approach, there needs to be a mechanism to measure the *actual* carbon outcomes of these different interventions over time. One way this could potentially be accomplished is by creating an overlay with remote sensing or within the modeling for the ARB inventory of those areas that have been affected by an intervention. The changes in carbon stocks could then be compared on those plots both throughout time (before and after the intervention occurred) and with the plots on which no state intervention has taken place. This remote-sensed inventory that is specific to the intervention-based plots could be complemented with periodic on-the-ground assessments of carbon stores on different project types. This data from real-world interventions and outcomes could then be used to further refine any modeling tools and expected carbon outcomes of new projects going forward.

Thank you for considering these comments. I would be happy to discuss them further at pmason@pacificforest.org or (916) 214-1382.

Sincerely,

A handwritten signature in dark ink, appearing to read "Paul Mason", with a stylized, cursive script.

Paul Mason
VP Policy